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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,146	07/26/2001	Richard A.A. Heylen	204	8208

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PATENT DEPARTMENT
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EXAMINER	
SCHUBERT, KEVIN R	

ART UNIT	PAPER NUMBER
2137	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/916,146	HEYLEN, RICHARD A.A.	
	Examiner	Art Unit	
	Kevin Schubert	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-7,9-12,14-16,18-20,22,23,25-27 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-7,9-12,14-16,18-20,22,23,25-27,29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-3,5-7,9-12,14-16,18-20,22-23,25-27, and 29 have been considered.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.1 14, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.1 14, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.1 14. Applicant's submission filed on 6/24/05 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3,5-7,9-12,14-16,18-20,22-23,25-27, and 29 are rejected under 35 USC 112, second paragraph.

The term "significant" in claims 1-3,5-7,9-12,14-16,18-20,22-23,25-27, and 29 is a relative term which renders the claims indefinite. The term "significant" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The examiner notes that a rejection on the term "significant" was made in the non-final office action dated 1/13/05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3,5-7,9,11-12,14-16,18-20,23,25-27, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Hogan, U.S. Patent No. 5,699,434.

As per claims 1 and 11, the applicant describes a method describing the following limitation which is met by Hogan:

Making up the authenticating signature from data patterns arranged such that the authenticating signature cannot be accurately written onto a copy disc by a writer for recordable discs which has a limited ability to look ahead during encoding, wherein the data patterns of the authenticating signature are arranged to have a DSV (digital sum value) which has a rapid rate of change over a significant period of time wherein the transitions in the EFM (eight to fourteen modulation) signal from the data patterns are shifted from their ideal values or the ability of disc drives to maintain optimal head positioning is compromised, thereby to cause DSV problems for writers of recordable discs (Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D).

As per claim 3, the applicant describes the method of claim 1, which is met by Hogan, with the following limitation which is also met by Hogan:

Wherein successful operation of the copy protected disc requires that the disc be present in the drive and that a correct authenticating signature be readable therefrom (Fig 1; Col 4, lines 18-21).

As per claims 5,14, and 25, the applicant describes the method of claims 1,11, and 23, which are met by Hogan, with the following limitation which is also met by Hogan:

Wherein the data patterns additionally ensure that the DSV has an absolute value significantly greater than usual (Col 3, lines 43-47).

As per claims 6,15, and 26, the applicant describes the method of claims 1,11, and 23, which are met by Hogan, with the following limitation which is also met by Hogan:

Wherein the data patterns which cause the DSV problems are repeated patterns of values (Fig 3A, Fig 3B, Col 3, lines 48-59).

As per claims 7,16, and 27, the applicant describes the method of claims 1,11, and 23, which are met by Hogan, with the following limitation which is also met by Hogan:

Wherein the size of the data patterns causing the DSV problems is a predetermined amount (Col 6, lines 42-49).

As per claims 9,18, and 29, the applicant describes the method of claims 1,11, and 23, which are met by Hogan, with the following limitation which is also met by Hogan:

Wherein the data patterns which cause the DSV problems are arranged to produce a DSV which has a substantial low frequency component lower than that of the lowest signal frequency that does not cause DSV problems (Col 5, lines 51-63; Fig 3B).

As per claim 12, the applicant describes the disc of claim 11, which is met by Hogan, with the following limitation which is also met by Hogan:

Wherein the data patterns of the authenticating signature have a size and/or nature which ensures that they cannot be accurately written by a writer of recordable discs (Col 3, lines 48-59; Col 1, lines 19-23).

As per claim 19, the applicant describes the disc of claim 11, which is met by Hogan, with the following limitation which is also met by Hogan:

Wherein the data patterns have been copied to a plurality of sectors on the optical disc.

As per claim 20, the applicant describes a method of authenticating a copy protected disc carrying encoded data, control data, and an authenticating signature, the encoded data, control data, and the authenticating signature having been applied to the disc during a mastering process wherein the authenticating signature is made up of data patterns arranged such that the authenticating signature cannot generally be accurately written onto a copy disc by a writer of recordable discs which has a limited ability to look ahead during encoding, wherein the authenticating signature is of data patterns which cause DSV (digital sum value) problems and wherein the data patterns are arranged to have a DSV which has a rapid rate of change, thereby to cause DSV problems comprising the following limitation which is met by Hogan:

Requiring a disc drive to locate and accurately read the authenticating signature on the disc in order to enable operation of the copy protected disc (Col 4, lines 11-23);

As per claim 23, the applicant describes a pre-mastering recordable disc for use in a process for mastering optical discs comprising the following limitations which are met by Hogan:

a) user data to be carried on the optical discs (Col 4, lines 1-23);

b) a blocking file made up of data patterns added to the pre-mastering recordable disc during the authoring or premastering process, and wherein the data patterns cause DSV (digital sum value) problems for a disc drive, thereby the data patterns cannot be accurately read by a disc drive (Col 4, lines 1-23).

The errors in the pre-mastering disc comprises the blocking file. Though the errors comprising the blocking file may be able to be extracted by decoders and used for authentication purposes, they cannot be accurately read by a standard encoder and copies made by the pre-mastering disc will not include the errors comprising the blocking file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan in view of Newman, U.S. Patent No. 6,353,890.

As per claim 2, the applicant describes the method of claim 1, which is met by Hogan, with the following limitation which is met by Newman:

Wherein the existence of corrupted or otherwise incorrect data in a particular sector on the optical disc signifies that that disc is not original whereby its use may be prevented (Newman: Col 10, lines 14-21);

Hogan describes all the limitations of claim 1. However, Hogan fails to identify the use of corrupt or incorrect data on a particular sector to signify that the disc is not original. The errors in Hogan's system only serve to create a large DSV which inhibits copying of the disc. The errors in Newman's system serve to signify that the disc is or is not original. If the disc is not original, its use is not permitted.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan and allow for the data patterns to authenticate whether use of a disc is or is not permitted because doing this installs an additional security feature in the system.

As per claim 10, the applicant describes the method of claim 1, which is met by Hogan, with the following limitation which is met by Newman:

Wherein the authenticating signature is also made up of sectors containing only zeros which are provided both before and after sectors containing the chosen data patterns (Newman: Col 3, lines 15-20; Col 3, lines 60-65);

Hogan describes all the limitations of claim 1. However, Hogan fails to describe the use of padding sectors with zeros before and after sectors containing chosen data patterns.

As described by the applicant in the specification, sectors in the disc can be padded in order to facilitate reading or normal play of the optical disc. According to Newman, unused sectors of the disc can be padded in order to facilitate the operation of the optical disc in that it is easier for standard reading devices to process information in this error and non-error sector format (Col 3, lines 20-25).

Though Newman does not discuss the specific use of only zeros, he does say that these areas are error free and a simple error free sector is one containing only zeros. Furthermore, the use of having sectors containing zeros next to sectors containing data patterns is disclosed by Newman: "at least one non-error location is selected which adjoins an error location" (Col 3, lines 60-65). Newman has the sector non-error sector adjoin the sector of error patterns for ease in processing of the access control information.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan and add sectors containing only zeros before and after the sectors containing data patterns because it is easier for standard reading devices to process information in this format.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan in view of Tanaka, U.S. Patent Application No. 2001/0011237.

As per claim 22, the applicant describes a method of enabling the mastering of an optical disc by an enabled encoder, where a pre-mastering recordable disc carries user data which is to be read by, a drive associated with the enabled encoder during the mastering process, and carries a blocking file made up of data patterns which cannot be accurately read by a disc drive wherein the data patterns cause the DSV (digital sum value) problems for a disc drive, the method comprising the following limitation which is met by Hogan in view of Tanaka:

Providing on the pre-mastering recordable disc information as to the existence and location of the blocking file, the drive associated with the enabled encoder being arranged not to read the blocking file in response to the existence and location information (Tanaka: [0091]-[0096], Fig 8);

Hogan describes all the limitations of the preamble. Hogan also describes a pre-mastering recordable disc and a blocking file of errors. Hogan also discloses that information as to the existence and location of the blocking file, or errors, is provided by the pre-mastering disc to a decoder which extracts the errors and uses them for authentication purposes. Hogan does not disclose that an encoder is arranged not to read the blocking file in response to the existence and location information.

Tanaka discloses a system for mastering a disc in which a pre-mastering disc provides copyright information to an encoder seeking to master a disc. If the pre-mastering disc is set so that copyright is disabled, the usable data (such as music data) is set as a blocking file. The copyright information provides information as to the existence and location of the blocking file because it alerts the encoder that the usable data (such as the music data) exists as a blocking file and cannot be copied.

Combining Tanaka into the system of Hogan would simply mean that copyright information is added that specifies to the encoder that the errors of Hogan's system cannot be copied because they provide an authentication signature for the system. This benefits the system because the system does malfunction from DSV errors trying to read and record the blocking file. Thus, the disc remains safeguarded and the system does not experience DSV errors. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Tanaka with those of Hogan because doing so allows the disc contents to be protected from piracy as taught by Hogan while curing the deficiency of Hogan's system of the DSV complications and malfunctions to the encoder trying to read the blocking file.

Response to Arguments

Applicant's arguments, see Remarks filed 6/24/05, with respect to the 112 rejection of claims 1-7,9-12,14-16, and 18-20 based on the term "rapid" have been fully considered and are persuasive. The

amendments to the claims have provided a standard for determining a "rapid" rate of change. The 112 rejection has been withdrawn.

Applicant's arguments with respect to claim 1 have been fully considered but they are not persuasive. The applicant argues that Hogan does not teach a rapid rate of change in DSV values. The examiner disagrees. In the action dated 5/13/05, the examiner noted that Hogan teaches a system which has a DSV rate of change (see Fig 3A, Fig 3B), but it was unclear whether Hogan's rate of change was "rapid" because the applicant had not provided a standard for the term "rapid". The amendments to claim 1 now provide the standard that a "rapid" rate of change is constituted by either (1) "wherein the transitions in the EFM (eight to fourteen modulation) signal from the data patterns are shifted from their ideal values" or (2) "the ability of disc drives to maintain optimal head positioning is compromised". A system which meets either (1) or (2) satisfies the limitation of having a DSV "rapid" rate of change. Hogan's system meets both (1) and (2).

Hogan discloses a method of inhibiting data copying which relies on standard encoders making non-optimal decisions in data copying which leads to large accumulated DSV and errors. Hogan teaches that a low DSV is ideal and that a large DSV is non-ideal in EFM encoding because a large DSV creates data errors (Col 2, lines 30-58). Since Hogan's system is built around having high DSV and high DSV is non-ideal, Hogan's system meets (1). Hogan also discloses (2). Hogan's system relies on a special encoder making decisions to place the encoder head in a seemingly non-optimal state in the short term in order to circumvent a long term path to large accumulated DSV (compare Fig 3A&B with Fig3C&D). The standard encoder, on the other hand, makes decisions to place the encoder head in a seemingly optimal state in the short term which leads to large accumulated DSV in the long term which compromises the optimal state of the encoder head.

Applicant's arguments with respect to claim 9 have been fully considered but they are not persuasive. The applicant argues that Hogan does not teach "a substantial low frequency component". The examiner disagrees. Hogan discloses a system which has a low frequency component (see Fig 3B).

The low frequency component taken together with the regular oscillations creates the high DSV. The examiner notes that the applicant has defined a low frequency component as being lower than the lowest signal frequency component that does not cause DSV problems. In the case of Hogan, signal frequencies lower than 720 khz (ie 3T) are taken with regular oscillations to create DSV problems.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KS

MATTHEW SMITHERS
PRIMARY EXAMINER
Art Unit 2137